

Hummel

(11)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

 OPP OFFICIAL RECORD
 HEALTH EFFECTS DIVISION
 SCIENTIFIC DATA REVIEWS
 EPA SERIES 361

 OFFICE OF
 PREVENTION, PESTICIDES, AND
 TOXIC SUBSTANCES

January 23, 1996

MEMORANDUM

SUBJECT: Mancozeb (014504). Reregistration Case No. 0643
 Mancozeb Task Force Protocol-Field Trials on Apples,
 Asparagus, Bananas, Barley, Oats, Rye, Wheat, Cotton,
 Cranberries, Fennel, Grapes, Onions, Papayas, Peanuts,
 Pears, Sugar Beets
 [No MRID No.; CB 15792; DP BARCODE: D216884]

FROM: Susan V. Hummel, Acting Section Head *Susan V. Hummel*
 Special Review Section II
 Chemistry Branch II - Reregistration Support
 Health Effects Division [7509C]

THRU: Edward Zager, Chief *Edward Zager*
 Chemistry Branch II - Reregistration Support
 Health Effects Division [7509C]

TO: Venus Eagle-Kunst/Walter Waldrop, PM#71
 Reregistration Branch
 Special Review & Reregistration Division [7508W]

The Mancozeb Task Force has submitted a proposal to comply with the outstanding residue data requirements for Apples, Asparagus, Bananas, Barley, Oats, Rye, Wheat, Cotton, Cranberries, Fennel, Grapes, Onions, Papayas, Peanuts, Pears, and Sugar Beets. Mancozeb is on List A. A Registration Standard was issued 3/87, with the Residue Chemistry Chapter completed 9/10/86, and several updates issued subsequently. A Reg. Std. Update was completed 8/11/92, with a review of a Rohm and Haas response to the Update completed 9/1/93 (S. Hummel, CB 11286, DP Barcode D187395). A DCI for the Mancozeb Residue Chemistry data requirements has not been issued.

The Task Force proposal includes the data requirements as stated in the 8/11/92 Mancozeb Update, the data requirements for each crop as stated in the 6/94 updated guidance on Number and Location of Field Trials, the number and location of existing Mancozeb Field trials, the difference between the number and location of field trials as required in the 6/94 guidance, and their proposal for the number and location of trials which they will conduct. Justification for providing fewer than the number of trials required in the 6/94 updated guidance was provided.

Conclusions

1. The Task Force proposes to conduct no additional residue decline studies to support uses on Apples, Asparagus, Bananas, Barley, Oats, Rye, Wheat, Cotton, Cranberries, Fennel, Grapes, Onions, Papayas, Peanuts, Pears, and Sugar Beets.

In our earlier review, we noted that additional decline data may be needed to support mancozeb use on some crops. We strongly recommend decline studies for asparagus, bananas, and wheat.

2. The Task Force proposed to conduct no additional storage stability studies if samples are analyzed within 30 days of harvest, although they state that they will provide new storage stability data for onions and sugar beet roots.

Provided the laboratory analyzing the samples for each commodity has analyzed the same of closely related commodity within the past 5 years with satisfactory storage stability, no additional storage stability studies will be needed for the crops in this protocol other than onions and sugar beets, provided samples are analyzed for ETU within 2 weeks of harvest and mancozeb within 30 days of harvest. If samples for ETU analysis are held more than 2 weeks after harvest, or samples for mancozeb analysis are held more than 30 days after harvest, concurrent storage stability studies will be needed. Concurrent storage stability data will also be needed for sugar beet tops, if samples are not analyzed in the time frames given above. Alternatively, storage stability data can be provided for lettuce or a loose leaf cabbage.

3. The Task Force proposes to conduct no additional residue studies to support uses on Apples, Asparagus, Bananas, Barley, Oats, Rye, Wheat, Cotton, Cranberries, Fennel, Onions, Papayas, or Peanuts. For Grapes, two field trials in NY are proposed. For Pears, 3 trials, one in CA and two in OR/WA are proposed. For Sugar Beets, 3 trials, 1 each in regions V, X, and XI are proposed.
- 3a. We agree that no more field trials are needed to support mancozeb use on apples, fennel, papayas, and peanuts.
- 3b. Asparagus. Two additional field trials are needed for asparagus, one in Region V and one in Region XI. Alternatively, the PHI may be changed to 250 days and no additional field trial data provided.

- 3c. Bananas. Three additional field trials are needed for bananas, one in Florida, and two in Hawaii. Alternatively, eight additional field trials may be provided, with 2/3 of the trials from Central America and 1/3 of the trials from South America banana growing regions. Banana samples must be frozen whole at the time of collection. Analysis of whole bananas only is required. The mancozeb tolerance on bananas will be changed to delete the reference to pulp.

- 3d. Barley, Oats, Rye, Wheat. Twelve additional field trials are needed for wheat, to be translated to the other grains, one in region II, three in Region V, three in Region VII, and five in Region VIII. Samples of wheat grain, hay, and straw must be collected. Data are not needed for wheat forage or aspirated grain fractions. Our conclusions assume that the PHI will be changed from 26 days to "Feekes Growth Stage 10.5, but not less than 26 days." Two decline studies are required.

- 3e. Cotton. Four additional field trials are required in Region VIII: Alternatively, use may be limited to CA/AZ and no additional field trials for cottonseed provided. Data from at least three field trials on cotton gin byproducts, one on stripper and two on picker cotton (data from Region X and Region VIII are suggested). Data are needed from a cottonseed processing study. The raw agricultural commodity for cottonseed is the undelinted seed. Undelinted cottonseed must be processed into meal, hulls, and refined oil.

- 3f. Cranberries. One additional field trial is required in Region V.

- 3g. Grapes. Three additional field trials are required, two in Region I, and 1 in Region XI.

- 3h. Onions. Three additional field trials are required, one in Region VIII, one in Region X, and one in Region XI or XII.

- 3i. Pears. Five additional field trials are required for pears, two in Region X and three in Region XI.

- 3j. Sugar Beets. Seven additional field trials are required for sugar beets, three in Region V, one in Region VII, one in Region VIII, one in Region IX, and one in Region X. Both roots and tops must be analyzed.

Recommendations

We recommend that the data requirements for Apples, Asparagus, Bananas, Barley, Oats, Rye, Wheat, Cotton, Cranberries, Fennel, Grapes, Onions, Papayas, Peanuts, Pears, Sugar Beets be modified as described in this review. We recommend that a copy of the entire review be provided to the registrant.

Detailed Considerations

Rationalization for reduction in the number of field trials

The Mancozeb Task Force cites several reasons why they should not be required to perform the total number of field trials specified in the 6/94 Guidance on Number and Location of Field Trials.

1. The 6/94 Guidelines allow for a 25% reduction in the number of field trials when a tolerance is established and the use pattern is being amended.
2. The stated criteria for the number of field trials included consideration of the acreage of the crop. Wheat is a high acreage crop; however, the percent of the grain crops treated with mancozeb is very low, less than 1% on wheat.

CBRS Comment

Both of these rationalizations were included in the Task Force's earlier proposal for other crops.

Fewer field trials needed for amended registrations. The allowance for fewer field trial needed to support amended registrations assumes that there are adequate residue data supporting the previously registered use pattern(s). This is not the case for mancozeb use on the crops included in this proposal. Because the application rate was significantly reduced for apples and pears, the number of field trials required for those crops could be reduced. Additionally, residue data on apples and pears could be used for a crop group tolerance on pome fruits.

Acreage of the crop. As stated in our earlier review, the primary basis for the number of field trials required was the acreage of the crop grown, as a measure of the importance of the crop in agriculture. The percent of crop treated will not be taken into account in determining the number of trials. This is not a justifiable reason for lowering the number of field trials required. Additionally, the number of field trials required has

already been lowered by requiring data only for wheat and not for barley, oats, and rye.

The Task Force Proposals are discussed below by crop.

Replicate Samples

The Task Force agrees to collect replicate samples for all new field trials, as specified in the 6/94 Guidance.

Storage Stability Data

The Mancozeb Task Force proposes to analyze all samples within 30 days and not conduct any additional storage stability studies. They cite our recent Guidance for Storage Stability data stating that storage stability data are not required for samples stored less than one month, and that concurrent storage stability studies are not always required, provided that the residues are found to be stable in the matrices of interest, and that storage stability data are available for the same conditions as those used for storage of field trial samples.

The Mancozeb Task Force Suggests translation of storage stability data as follows:

<u>Crop</u>	<u>Available Storage Stability Data</u>
Apples	Apples
Bananas	Bananas
Barley, Oats, Rye, Wheat	Wheat
Cotton	Dry Beans
Cranberries	Tomato
Onions	New Data
Papayas	Apples
Peanuts	Dry Beans
Pears	Apples
Sugar Beets - Roots	New Data
Sugar Beets - Tops	Dry Bean Hay, Vines

This implies that the Task Force will provide new storage stability data for onions and sugar beet roots. The laboratories who will be analyzing samples were not identified in the submission.

CBRS Comment

Provided the laboratory analyzing the samples for the commodities in column 1 is the same as the laboratory who conducted the storage stability study for the corresponding commodity in column with satisfactory results, no additional storage stability studies will be needed for these crops, provided samples are analyzed for ETU within 2 weeks of harvest

and mancozeb within 30 days of harvest. If samples are held more than 2 weeks after harvest, concurrent storage stability studies will be needed.

7 The proposed translations of storage stability data are appropriate, with the exception of tomato storage stability data for cranberries, and dry bean hay and vines for sugar beet tops. For cranberries, translation of storage stability data from apples is more appropriate. For sugar beet tops, there is no similar commodity for which storage stability data are available. Concurrent storage stability data for sugar beet tops will be required, if samples are not submitted within the above time frames. Alternatively, concurrent storage stability data can be provided for lettuce or a loose leafed cabbage. We assume that "new data" means that new storage stability data will be submitted for onions and sugar beet roots.

Residue Decline Data

The Task Force provided a tabulation of the number of residue decline studies available for a number of crops.

<u>Crop</u>	<u>Number of decline studies</u>
Apples	1
Celery	5
Corn, field	1 (2 with stalks)
Corn, sweet	6
Cranberries	5
Cucumbers	4
Grapes	7
Melons	7
Onions	7
Papaya	2
Pears	3
Sugar Beet, roots	8
Sugar Beet, tops	2
Squash, summer	7
Squash, winter	2
Tomato	5

A total of 74 decline studies have been conducted for mancozeb. Mancozeb residues decline after treatment, generally with a half life of 7-9 days. There are no decline data for asparagus, bananas, barley, oats, rye, wheat, fennel, peanuts, or potatoes. For asparagus, cotton, peanuts, potatoes, and the small grains, the Task Force expects very low residues, and expects that decline studies would not provide meaningful data. They note that banana pulp is not exposed to the mancozeb, and therefore no residues are expected. Additionally, celery is similar to

fennel, and corn stalks and fodder are similar to straw of the small grains.

CBRS Comment

The Task Force may wish to note that the decline data were very useful for estimating residue for use patterns for which residue data were not available. A decline study on bananas may be useful; detectable residues are expected on the whole fruit, which is the regulated commodity. A decline study for asparagus is strongly recommended. Two decline curves for wheat commodities are strongly recommended.

Task Force Proposals by Crop

The Mancozeb Task Force Proposals are presented below by crop in tabular form, using the same terms used by the Task Force:

Required Trials=number of trials required in 6/94 Guidance

Adequate Trials=number of trials considered adequate in the 8/11/92 Update

Needed Trials=number of trials still needed by subtracting the number of adequate trials from the number of required trials.

Needed-Update=number of trials required in 8/11/92 Update (apparently assuming only one trial was required for each state or group of states specified for locations of field trials.) It should be noted that the Mancozeb Update and earlier Registration Standard did not specify the number of field trials required, only the locations. The Residue Chemistry Guidelines have always required an adequate number of geographically representative field trials, and stated that the number of field trials in a geographic area should be proportional to the amount of the crop grown in that area.

Proposal=number of trials proposed to be conducted by the Task Force

Conclusion=number of trials needed after considering all available data and other factors (CB Conclusions)

APPLES

Use patterns: maximum 4 x 4.8 lb. a.i./acre, through bloom or
maximum 7 x 2.4 lb. a.i./acre, 77 day PHI

Current tolerance: 7 ppm

Expected tolerance for new use pattern: 1 ppm

Data Requirements and Available data

REGION	I	II	V	IX	X	XI	TOTAL
Required	4	2	3	1	1	5	16
Adequate	5	2	4	0	0	3	12
Needed	0	0	0	1	1	2	4
Needed-Update*	1	1	1	0	0	1	4
Proposal	0	0	0	0	0	0	0
Conclusion	0	0	0	0	0	0	0

*These trials were conducted and are included in the "Adequate" column.

Comments

We agree that no additional field trials are needed for apples.

ASPARAGUS

Use patterns: maximum 4 x 1.6 lb. a.i./acre, 120 day PHI in California, Arizona, 180 days elsewhere
Current tolerance: 0.1 ppm

Data Requirements and Available data

REGION	II	V	X	XI	TOTAL
Required	1	2	3	2	8
Adequate	0	0	2	0	2
Needed	1	2	1	2	6
Needed-Update	0	0	0	1	1
Reg. Update					
Proposal:	0	0	0	0	0
Conclusion	0	1	0	1	2

Task Force Rationale: Asparagus is a very minor crop, with only 89,420 acres harvested in 1992 with 94% of the crop grown in California, Minnesota, and Washington. According to the Mancozeb Registration Update, there are three acceptable mancozeb trials in Region X. There are also two trials in Washington with PHI's of 231 and 321 days and one trial in Minnesota with a PHI of 252 days. The PHI for asparagus is not expected to affect the residue levels because mancozeb is applied to the foliage after harvest of the asparagus, is not systemic, and therefore, no residues are expected in the asparagus.

Comment

The acreage of the crop has already been taken into consideration in determining the number of field trials required. And finite residues have been reported in the asparagus, even with the very long PHI. Residue data are needed to support the minimum PHI on the label. Alternatively, the PHI may be changed to 250 days and no additional data provided.

BANANAS

Use patterns: maximum 10 x 2.4 lb. a.i./acre, 0 day PHI
 Current tolerance: 4 ppm whole fruit, 0.5 ppm pulp

Data Requirements and Available data

REGION	III	XIII	TOTAL
Required	1	4	5
Adequate	0	2	2
Needed	1	2	3
Needed-Update	0	0	0
Proposal	0	0	0
Conclusion	1	2	3

Task Force Rationale: Only 400 acres of bananas are grown in FL, all in Dade Co, and Hawaiian Bananas are not shipped to the mainland, thus no useful information would be provided with more data. Mancozeb residues are not systemic and will remain on the peel. Thus, residues should not be found in the pulp. Residues found in banana pulp were most likely the result of contamination while cutting the peel.

If additional banana field trials are needed, the Task Force proposes to freeze bananas to be analyzed whole, but allow bananas to be analyzed for pulp to first be ripened for 5 days, and then cut to remove the peel, because the green banana peel is very hard to cut and may result in contamination of the pulp.

Comment

Residue data are needed to support the registration of mancozeb on bananas. The raw agricultural commodity for bananas is the whole banana. Analysis of pulp is optional. The whole bananas must be frozen at the time of collection. We note that contamination of the pulp during cutting and/or peeling could be normal and expected.

Alternatively, if the Task Force does not wish to conduct additional field trials in the US, the Task Force may conduct 8 field trials in major banana growing areas (2/3 in Central America and 1/3 in South America).

BARLEY, OATS, RYE, AND WHEAT

Use patterns: maximum 3 x 1.6 lb. a.i./acre, 26 day PHI
 Current tolerance: grain 5 ppm, straw 25 ppm

BARLEY

Data Requirements and Available data

REGION	I/II	V	VII	IX	X	XI	TOTAL
Required	1	3	4	1	1	2	12
Adequate			3			1	4
Needed	1		4	1	1	1	8
Needed-Update	no trials needed - wheat to be translated						
Proposal	0	0	0	0	0	0	0
Conclusion	0	0	0	0	0	0	0

WHEAT, translated to barley, oats, and rye

Data Requirements and Available data

REGION	II	IV	V	VI	VII	VIII	XI	TOTAL
Required	1	1	5	1	5	6	1	20
Adequate	0	0	1	1	0	1	1	4
Needed	1	1	4	0	5	5	0	16
Needed-Update	0	0	2	0	2	1	1	6
Proposal	0	0	0	0	0	0	0	0
Conclusion	1	0	3	0	3	5	0	15

Task Force Rationale: Mancozeb is used during the early states of head development or complete head emergence (at Feekes 10.3 to 10.5 growth stages), so it does not contact the grain, and no detectable residues are expected in the grain. The pre-harvest interval for Feekes growth stage 10.5 is generally 35-45 days, longer than the 26 day PHI currently allowed on the mancozeb label. The Mancozeb Task Force will be petitioning EPA to change the label for barley, oats, rye, and wheat to have the PHI set at Feekes growth stage 10.5 rather than 26 days, to reflect the way the mancozeb is actually used.

In the Registration Update, EPA said that the geographical representation for wheat grain and straw samples was adequate, but the trials were not conducted at the 26 day PHI. The available trials were actually conducted with a Feekes growth stage 10.5, because that is the way the product is used. An adequate number of field trials are available at the proposed PHI, Feekes growth stage 10.5. Additional data are available on barley.

Residue data on wheat forage should not be required. Wheat forage is typically considered to be young growth prior to tillering. Although some growers forage or graze cattle in wheat fields during the winter, it is highly unlikely that fungicides would be applied to the crop at this time. When the wheat is ready to tiller, the livestock producer decides whether to continue grazing the cattle or to harvest the wheat grain. If grazing is continued, the forage will not be treated with a fungicide because it is not economical to do so. If the cattle

are withdrawn from the field and disease occurs, the grower may decide to apply a fungicide. Regardless, the period in which wheat is "foraged" is prior to the time growers would make fungicide applications. No residues would be expected in the forage because no mancozeb applications would be made before foraging.

Data on aspirated grain fractions are not required, because mancozeb is applied before the reproductive stages.

Only 0.3% of the wheat is treated with mancozeb. Because of the low percent of crop treated, fewer data should be required. The geographical representation of existing data was previously considered to be adequate.

Thus, the Task Force concludes that when all of the existing data on barley and wheat are considered, these data are adequate to support the barley, oat, rye and wheat uses. The PHI question will be resolved with a label change, forage data are not relevant to this use, and the geographical distribution was considered to be adequate in the Registration Update.

Comment

Percent of crop treated is not relevant to the number of field trials required. Although the Updated stated that the geographic representation was adequate, even considering a change in the PHI from 26 days to "Feekes Growth Stage 10.5, but not less than 26 days," there were an inadequate number of field trials conducted. The conclusion, "adequate geographic representation," means that there were some data from all major growing regions, not necessarily that there were an adequate number of field trials.

Samples of wheat grain, hay, and straw must be collected. Data are not needed for wheat forage or aspirated grain fractions. Our conclusions assume that the PHI will be changed from 26 days to "Feekes Growth Stage 10.5, but not less than 26 days." Two decline studies are required.

COTTON

Use pattern: maximum 4 x 1.6 lb. a.i./acre, 45 day PHI,
southwest U.S. only label
Current tolerance: 0.5 ppm

Data Requirements and Available data

REGION	I	IV	VI	VIII	X	TOTAL
Required	8	3	1	4	3	19
Adequate	0	0	0	0	7*	7
Needed						
Needed-Update			Not discussed			
Proposal	0	0	0	0	0	0
Conclusion	0	0	0	4	0	4*
	or limit use to CA/AZ					

Task Force Rationale: Cotton is an extremely minor use of mancozeb. According to EPA's benefits analysis only 1%-2% of the U.S. cotton is treated with mancozeb. Mancozeb is only used to treat cotton for rust in Arizona and occasionally in California and the label is therefore restricted to the southwest U.S. Furthermore, there is a label restriction to not apply mancozeb after bolls open, or within 45 days of harvest.

According to the Science Reviews from the 1987 mancozeb Registration Standard, there were six tests conducted in Arizona and one in California with 2 to 6 applications of 1.4 to 2.4 lb. a.i./acre. The trials were not considered adequate because no data were provided for the dust formulation, and there were no aerial trials. The dust formulation is no longer registered and aerial data are not required. Thus, these data should fulfill the requirement because they cover the geographical area where the crop is registered.

The Task Force requests a waiver from the cotton processing study. The current label restricts pesticide application to the time before the bolls are open. Thus, the seed is never exposed to mancozeb treatments. Furthermore, mancozeb residues are not systemic. Therefore, there should be no residues in the seed and there is no need for a processing study.

Comments

Cotton was not discussed in the Update because no data were submitted in response to the Mancozeb Registration Standard. Percent of crop treated is not relevant to the number of field trials required. Use is currently limited to the SW US, which could include Regions 6 and 8 in addition to region 10. Four field trials are needed from Region 8, or, alternatively, if use is limited to CA/AZ, no additional field trials for cottonseed, will be needed.

Availability of data for cotton gin byproducts was not addressed. The previous restriction against feeding cotton gin trash is not enforceable. Data from at least three field trials on cotton gin byproducts, one on stripper and two on picker cotton (data from Region X and Region VIII are suggested). We

note that no data on cotton gin byproducts are discussed in the Residue Chemistry Chapter of the Mancozeb Registration Standard.

Data are needed from a cottonseed processing study. Lack of expectation of finite residues does not preclude the need for a processing study. Additionally, finite residues including tolerance exceeding residues have been reported for mancozeb on cottonseed. The raw agricultural commodity for cottonseed is the undelinted seed. Undelinted cottonseed must be processed into meal, hulls, and refined oil.

CRANBERRIES

Use pattern: maximum 3 x 4.8 lb. a.i./acre, 30 day PHI
Current tolerance: 7 ppm

Data Requirements and Available data

REGION	I	V	XII	TOTAL
Required	2	2	1	5
Adequate	2	0	2	4
Needed	0	2	0	2
Needed per	0	1	0	1
Reg. Update				
Proposal	0	0	0	0
Conclusion	0	1	0	1

Task Force Rationale: Only 5% of the cranberry crop is treated with mancozeb, which is a very minor percentage of a minor crop. A total of 7 residue trials are available - Washington (2), Oregon (1), New Jersey (3), Massachusetts (1). All of the data with the labeled use rate are well within the tolerance, with a maximum of 2.7 ppm. Even at an exaggerated use rate of 4 X 4.8 lb a.i./Acre and a 30 day PHI the residue is 5.45 ppm, still less than the tolerance (MRID No. 40869706 and EPA Accession No. 262001).

According to the 1993 Agricultural Statistics, the above-mentioned states account for 66% of the cranberry production. The only state where data are not available is Wisconsin. However, based on the fact that residues are far below tolerance in 6 trials with the label use rate and are still below tolerance even with an exaggerated rate, we are confident that the use of mancozeb on cranberries will not exceed the tolerance.

Comments

Low percent of crop treated is not relevant to the number of field trials required. No data are available from WI, a major growing area. One field trial from Region V is required.

FENNEL

Use pattern: maximum 8 x 1.6 lb. a.i./acre, 14 day PHI
 Current tolerance: 10 ppm

Proposal: Conduct no new trials

Task Force Rationale: At the conclusion of the EBDC Special Review, EPA translated celery data to support this use. The celery data can continue to support fennel, a very minor use crop.

Comment

Agree. No additional field trials are required.

GRAPES

Use pattern: West of Rocky Mountains, maximum 3 x 2 lb. a.i./acre, PHI of 66 days except in California do not apply after bloom; East of Rocky Mountains, maximum 6 x 3.2 lb. a.i./acre, 66 day PHI.
 Current tolerance: 7 ppm

Data Requirements and Available data

REGION	I	X	XI	TOTAL
Required	2	8	2	12
Adequate	0	7	0	7
Needed	2	1	2	5
Needed per Reg. Update	1	0	0	1
Proposal	2	0	0	2
Conclusion	2	0	1	3

Task Force Rationale: Residues in grapes are expected to be low because of the long pre-harvest interval. Data are available from CA with a 12.8 lb ai/A rate and a 66 day PHI, which can be used to support use in Region XI because the climate in Region XI is dry and similar to that in California. Thus, only data from the Northeastern U.S. are needed to support the tolerance.

Comments

California (Region X) and Region XI have different climates, or they would be the same region. Some data are needed for Region XI along with the two proposed field trials from NY.

ONIONS

Use pattern: maximum 10 x 2.4 lb. a.i./acre, 7 day PHI
 Current tolerance: 0.5 ppm

Data Requirements and Available data

REGION	I	III	V	VI	VIII	IX	X	XI	XII	TOTAL
Required	1	0	1	1	1	0	2	1	1	8
Adequate	1	1	1	1	0	0	1	0	0	5
Needed	0	0	0	0	1	0	1	1	1	4
Needed-Update	0	0	0	0	1	0	1	0	0	2
Proposal	0	0	0	0	0	0	0	0	0	0
Conclusion	0	0	0	0	1	0	1	\1/		3

Task Force Rationale: A summary of available onion residue data was provided. All residues were less than 0.1 ppm at the 7 day PHI, and at shorter PHIs of 3 or 4 days. This is expected because mancozeb is applied foliarly. Only a small part of the onion is above the surface of the ground and exposed to the spray.

Comments

Adequate, geographically representative residue data are needed to support the use of mancozeb on onions. Three additional field trials are needed, one in Region VIII, one in Region X, and one in Region XI or XII.

PAPAYAS

Use pattern: maximum 14 x 2 lb. a.i./acre, 0 day PHI
 Current tolerance: 10 ppm for whole fruit, 0 ppm in pulp (a petition to delete the pulp restriction was submitted in PP#2F4133).

Data Requirements and Available data

REGION	XIII
Required	3
Adequate	6
Needed-Update	0
Proposal	0
Conclusion	0

Task Force Rationale: 96% of papaya production is in Hawaii. With the revised tolerance for whole fruit only, there are adequate data to determine the appropriate tolerance.

Comment

Agree. No additional data are needed for papayas.

PEANUTS

Use pattern: maximum 8 x 1.6 lb. a.i./acre, PHI of 14 days

Current tolerance: 0.5 ppm in peanuts

65 ppm on peanut vine hay

Data Requirements and Available data

REGION	II	III	VI	VIII	TOTAL
Required	8	1	2	1	12
Adequate	8	0	2	0	10
Needed	0	1	0	1	2
Needed-Update	0	0	0	0	0
Proposal	0	0	0	0	0

Task Force Rationale: According to the Update no additional trials were necessary and there were adequate data to determine the tolerance on peanut nutmeats and hay. None of the residues reported exceeded the tolerance on nutmeats or hay. Because mancozeb is a foliar application and is not systemic, no residues are expected in peanuts. No detectable residues of mancozeb or ETU have been found in peanuts, even at 5X treatment (MRID No. 40869711).

The Registration Update did require that the Task Force propose a tolerance for hulls. Based on the data described in Attachment 4 of their submission, the Task Force proposes a hull tolerance of 3 ppm.

Comment

Agree. No additional data are needed for peanuts. A petition must be filed to establish a tolerance on peanut hulls.

PEARS

Use pattern: maximum 4 x 4.8 lb. a.i./acre through bloom, or
maximum 7 x 2.4 lb. a.i./acre with a 77 day PHI

Current tolerance: 10 ppm

Data Requirements and Available data

REGION	I	X	XI	TOTAL
Required	1	3	4	8
Adequate	1	0	0	1
Needed	0	3	4	7
Needed-Update	0	1	1	2
Proposal	0	1	2	3
Conclusion	0	2	3	5

Task Force Rationale: Only 10-15% of the pear crop is treated with mancozeb, because most U.S. pears are grown in arid sections

of California, Washington, and Oregon where there is a low incidence of disease pressure.

One trial from Pennsylvania (MRID No. 40913306) measured mancozeb and ETU residues from 6 x 6.4 lb. a.i./acre, a total of 38.4 lb. a.i./acre, with PHI's of 7, 14, and 21 days. This rate is higher than that currently allowed so it can still support the pear label and fulfill the requirement for Region I. Residues at bloom can be estimated from the decline curve.

A reduced number of trials in Regions X and XI is warranted because of the low percent of crop treated and the long PHI. With the long PHI, the residues are expected to be very low in all cases.

The Task Force also proposes to measure residues from new application schedule of 4 x 6.4 lb. a.i./acre with a 77 day PHI, for a total seasonal application of 25.6 lb. a.i./acre.

Comments

Percent of crop treated is not relevant to the number of field trials required. However, the number of required field trials can be reduced for to that required for a crop group tolerance, six trials. Data must be provided to support the PD4 use patterns. The Task Force should be reminded that a Sub-Part D petition is required to change the use pattern.

SUGAR BEETS

Use pattern: maximum 7 x 1.6 lb. a.i./acre, 14 day PHI

Current tolerance: 2 ppm - roots

65 ppm-sugarbeet tops

Data Requirements and Available data

REGION	V	VI	VII	VIII	IX	X	XI	TOTAL
Required	5	0	1	1	1	2	2	12
Adequate								
Roots	3	1	0	0	0	1	2	7
Tops	2	1	0	0	0	0	0	3
Needed	3	0	1	1	1	1	0	7
Needed-Update								
Roots	0	0	0	0	0	0	0	0
Tops	1	0	0	0	0	1	1	3
Proposal	1	0	0	0	0	1	1	3
Conclusion	3	0	1	1	1	1	0	7

Task Force Rationale: According to the Registration Update, the requirement for sugar beet roots had been fulfilled. Mancozeb previously had a feeding restriction for sugar beet tops, thus only limited data from tops are available. However, data are

available from TX and MN (2). The TX study had a somewhat reduced rate of 9.6 lb ai/acre, where 11.2 lb ai/acre are allowed. With one new trial in each of Regions V, X, and XI sugar beet top data would be available from the major sugar beet growing regions. These data, in addition to the existing data from MN and TX, should be adequate to define the tolerance.

Comments

Adequate, geographically representative residue data are needed to support the use of mancozeb on sugar beets (both roots and tops). Samples of both roots and tops should be analyzed from all field trials.

cc:RF, circu, Mancozeb RSF, Mancozeb SF
RDI:RBP:12/19/95:EZ:01/22/96
7509C:RM:804:CM#2:SVH:svh:305-7689:01/23/96



13544

R108520

Chemical:	Mancozeb
PC Code:	014504
HED File Code	11000 Chemistry Reviews
Memo Date:	01/23/96
File ID:	DPD216884
Accession Number:	412-05-0095

HED Records Reference Center
05/31/2005